

ATTACHMENTS

Tables to the Executive Summary

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Table ES-1
Resources Along New Rail Construction in Wyoming and Western
South Dakota Significantly Adversely Impacted By Action Alternatives

Resource*	Alternative	
	B	C
Safety	significant impact	no significant impact
Land Use	significant impact - agricultural land Federal lands	significant impact - agricultural land Federal lands
Geologic Hazards	significant impact	significant impact
Soils	significant impact	significant impact
Paleontological Resources	significant impact	significant impact
Water Resources	significant impact	significant impact
Wetlands	significant impact	significant impact
Air Quality	significant impact	significant impact
Noise	no significant impact	no significant impact
Transportation	no significant impact	no significant impact
Vegetation	significant impact	significant impact
Endangered Species	significant impact	no significant impact
Cultural Resources	significant impact	significant impact
Aesthetics	significant impact	significant impact
* Some potential impacts, such as those to Environmental Justice Communities and Traditional Cultural Properties, are included within other resource categories, such as Safety and Cultural Resources.		

Table ES-2
Resources Along New Rail Construction in Wyoming and
Western South Dakota Significantly Adversely Impacted By Action
Alternatives

Resource*	Alternative	
	Spring Creek	Phiney Flat
Safety	no significant impact	no significant impact
Land Use	no significant impact	no significant impact
Geologic Hazards	no significant impact	no significant impact
Soils	no significant impact	no significant impact
Paleontological Resources	potential significant impact	no significant impact
Water Resources	significant impact	no significant impact
Wetlands	significant impact	no significant impact
Air Quality	no significant impact	no significant impact
Noise	no significant impact	no significant impact
Transportation	no significant impact	no significant impact
Vegetation	significant impact	no significant impact
Endangered Species	no significant impact	no significant impact
Cultural Resources	significant impact	no significant impact
Aesthetics	no significant impact	no significant impact
* Some potential impacts, such as those to Environmental Justice Communities and Traditional Cultural Properties, are included within other resource categories, such as Safety and Cultural Resources.		

Table ES-3
Resources Along New Rail Construction in Wyoming and
Western South Dakota Significantly Adversely Impacted By Action Alternatives

Resource*	Alternative		
	Oral	Hay Canyon	WG Divide
Safety	no significant impact	no significant impact	no significant
Land Use	no significant impact	no significant impact	no significant impact
Geologic Hazards	significant impact	significant impact	significant impact
Soils	significant impact	significant impact	significant impact
Paleontological Resources	significant impact	significant impact	significant impact
Water Resources	significant impact	significant impact	no significant impact
Wetlands	significant impact	significant impact	no significant impact
Air Quality	no significant impact	no significant impact	no significant impact
Noise	no significant impact	no significant impact	no significant impact
Transportation	no significant impact	no significant impact	no significant impact
Vegetation	significant impact	significant impact	no significant impact
Endangered Species	no significant impact	no significant impact	no significant impact
Cultural Resources	significant impact	significant impact	no significant impact
Aesthetics	no significant impact	no significant impact	no significant impact
* Some potential impacts, such as those to Environmental Justice Communities and Traditional Cultural Properties, are included within other resource categories, such as Safety and Cultural Resources.			

Table ES-4 Resources Along New Rail Construction Alternatives in Mankato, Minnesota Significantly Adversely Impacted By Action Alternatives		
Resource*	Alternative	
	M-2 (South Route)	M-3 (Existing Rail Line)
Safety	significant impact	significant impact
Land Use	significant impact - agricultural land	no significant impact
Geologic Hazards	no significant impact	no significant impact
Soils	significant impact	significant impact
Paleontological Resources	no significant impact	no significant impact
Water Resources	significant impact	no significant impact
Wetlands	significant impact	no significant impact
Air Quality	no significant impact	no significant impact
Noise	no significant impact	significant impact
Transportation	no significant impact	no significant impact
Vegetation	no significant impact	no significant impact
Endangered Species	significant impact	no significant impact
Cultural Resources	potential significant impact	no significant impact
Aesthetics	no significant impact	no significant impact
* Some potential impacts, such as those to Environmental Justice Communities and Traditional Cultural Properties, are included within other resource categories, such as Safety and Cultural Resources.		

Table ES-5
Resources Along New Rail Construction in Rochester, Minnesota
Significantly Adversely Impacted By Action Alternatives

Resource*	Alternative	
	R-2 (Existing Rail Line)	R-4 (Bypass)
Safety	significant impact	significant impact
Land Use	no significant impact	significant impact - agricultural land
Geologic Hazards	no significant impact	significant impact
Soils	no significant impact	significant impact
Paleontological Resources	no significant impact	no significant impact
Water Resources	no significant impact	significant impact
Wetlands	no significant impact	significant impact
Air Quality	no significant impact	no significant impact
Noise	significant impact	no significant impact
Transportation	no significant impact	no significant impact
Vegetation	no significant impact	no significant impact
Endangered Species	no significant impact	no significant impact
Cultural Resources	no significant impact	potential significant impact
Aesthetics	no significant impact	no significant impact
* Some potential impacts, such as those to Environmental Justice Communities and Traditional Cultural Properties, are included within other resource categories, such as Safety and Cultural Resources.		

Table ES-6 Resources Along New Rail Construction in Brookings, South Dakota Significantly Adversely Impacted By Action Alternatives		
Resource*	Alternative	
	B-2 (Existing Rail Line)	B-4 (Bypass)
Safety	significant impact	significant impact
Land Use	no significant impact	significant impact - agricultural land
Geologic Hazards	no significant impact	no significant impact
Soils	no significant impact	significant impact
Paleontological Resources	no significant impact	no significant impact
Water Resources	no significant impact	significant impact
Wetlands	no significant impact	significant impact
Air Quality	no significant impact	no significant impact
Noise	significant impact	no significant impact
Transportation	no significant impact	no significant impact
Vegetation	no significant impact	no significant impact
Endangered Species	no significant impact	no significant impact
Cultural Resources	no significant impact	potential significant impact
Aesthetics	no significant impact	no significant impact
* Some potential impacts, such as those to Environmental Justice Communities and Traditional Cultural Properties, are included within other resource categories, such as Safety and Cultural Resources.		

Table ES-7
Resources Along New Rail Construction in Pierre, South Dakota
Significantly Adversely Impacted By Action Alternatives

Resource*	Alternative	
	P-2 (Existing Rail Line)	P-3 (Bypass)
Safety	significant impact	no significant impact
Land Use	no significant impact	no significant impact
Geologic Hazards	no significant impact	significant impact
Soils	no significant impact	significant impact
Paleontological Resources	no significant impact	no significant impact
Water Resources	no significant impact	significant impact
Wetlands	no significant impact	significant impact
Air Quality	no significant impact	no significant impact
Noise	significant impact	no significant impact
Transportation	no significant impact	no significant impact
Vegetation	no significant impact	no significant impact
Endangered Species	no significant impact	no significant impact
Cultural Resources	no significant impact	significant impact
Aesthetics	no significant impact	significant impact
* Some potential impacts, such as those to Environmental Justice Communities and Traditional Cultural Properties, are included within other resource categories, such as Safety and Cultural Resources.		

Table ES-8
Summary of Powder River Basin Expansion Project Alternatives
Wyoming, South Dakota, and Minnesota

Alternative	Description	Purpose	Recommendation in the Draft EIS	SEA's Final Recommendation
Extension Alternatives (Wyoming and South Dakota)				
Alternative B	Proposed route, extends southwest from Wall, South Dakota along the Cheyenne River and westward into Wyoming to access the coal mines.	Extend DM&E's existing system westward to access the coal mines in the Powder River Basin of Wyoming.	Should it be determined that the project meets the propose and need identified for the project, Alternative C appears to be the least environmentally intrusive alternative.	SEA concludes that either of the Extension Alternatives would have significant environmental impacts. However, significant impacts would generally be similar or less for Alternative C (which was developed to avoid a number of environmentally sensitive areas). As a result, if the Board decides to give final approval to the PRB Expansion Project, Alternative C would be the environmentally preferred alternative.
Alternative C	Modified proposed route similar to Alternative B but with the alignment modification to avoid the environmentally sensitive areas along the Cheyenne River.	Extend DM&E's existing system westward to access coal mines in the Powder River Basin of Wyoming and avoid environmentally sensitive areas along the Cheyenne River.		
Alternative D	Existing corridor alternative that utilizes existing rail line from Wall to Rapid City to Smithwick, new alignment west to Edgemont and then parallel existing rail line to access the mines.	Extend DM&E's existing system westward to access coal mines in the Powder River Basin of Wyoming while utilizing existing rail lines to the extent practicable.		

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Alternative	Description	Purpose	Recommendation in the Draft EIS	SEA's Final Recommendation
Extension Sub-Alternatives Spring Creek Alternatives (South Dakota)				
Spring Creek Segment	Segment of Alternative B, crosses and follows Spring Creek floodplain.	Provide efficient grade for new rail line extending DM&E's existing system.	While both alternatives would have potentially significant impacts to environmental resources, the Phiney Flat Alternative would have far fewer impacts that would be more capable of being mitigated, therefore SEA preliminarily concludes that the Phiney Flat Alternative would be environmentally preferable.	The Phiney Flat Alternative would have far fewer impacts, particularly to wetlands, riparian areas, and cultural resources than the Spring Creek Segment. Additionally, because impacts due to the Phiney Flat Alternative can be more readily mitigated, SEA reaffirms its conclusion in the Draft EIS that Phiney Flat is the environmentally preferred alternative, with SEA's recommended mitigation.
Phiney Flat Alternative	Segment of Alternative B moved out of Spring Creek drainage area.	Avoid sensitive environmental areas (wetlands, riparian areas) along Spring Creek.		

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Alternative	Description	Purpose	Recommendation in the Draft EIS	SEA's Final Recommendation
Hay Canyon Alternatives (South Dakota)				
Hay Canyon Segment	Alignment following Hay Canyon drainage from north of the Cheyenne River south to Smithwick.	Provide suitable alignment while avoiding environmentally sensitive areas along the Cheyenne River.	Each of the alternatives would have significant environmental impacts, but to different resources. Because SEA would have to make a value judgement between wetlands/ riparian areas or irrigated lands, SEA requests additional comments from agencies and the public to assist in identifying an environmentally preferable alternative.	As a result of a Memorandum of Agreement between DM&E and the Bureau of Reclamation, it now appears that significant impacts to irrigated lands and the Angostura Dam, Reservoir, and facilities can be effectively mitigated. Thus, SEA has determined that the WG Divide Alternative is the environmentally preferred route variation.
Oral Segment	Alignment following the Cheyenne River to Oral, then using existing rail line south to Smithwick.	Provide suitable alignment while using as much of the existing DM&E rail line as practicable, avoid irrigated lands and environmentally sensitive areas along Hay Canyon.		
WG Divide Alternative	Alignment following WG Divide drainage from north of the Cheyenne River south to Smithwick.	Provide suitable alignment while avoiding environmentally sensitive areas along the Cheyenne River and Hay Canyon.		

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Alternative	Description	Purpose	Recommendation in the Draft EIS	SEA's Final Recommendation
Black Thunder Alternatives (Wyoming)				
Black Thunder South	Two spurs, one north of Hwy. 450 to access Jacobs Ranch Mine, one south along Hwy. 450 creating a second rail loading loop to access the Black Thunder Mine.	To provide access to Black Thunder Mine, avoiding need to cross existing Jacobs Ranch Mine Loop.	Overall, neither alternative would have significant environmental impacts. However, because the North Mine Loop would have less overall environmental impacts, SEA preliminarily concludes the Black Thunder North Mine Loop would be the preferred environmental alternative.	SEA reaffirms its conclusion in the Draft EIS that the Black Thunder North Mine Loop is the environmentally preferred alternative.
Black Thunder North	Rail spur north of Hwy. 450 connecting to Jacobs Ranch Mine, continuing to the existing Black Thunder rail loop on the north side of Hwy 450.	To provide access to Black Thunder Mine, minimizing new rail line construction.		

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Alternative	Description	Purpose	Recommendation in the Draft EIS	SEA's Final Recommendation
North Antelope Alternatives (Wyoming)				
North Antelope East	Mine connection spur connecting to existing mine loop just west of Porcupine Reservoir.	Provide rail access to the North Antelope Mine.	Overall, neither alternative would have significant environmental impacts. However, because the East Mine Loop would have less overall environmental impacts, SEA preliminarily concludes the North Antelope East Mine Loop would be the preferred environmental alternative.	SEA reaffirms its conclusion in the Draft EIS that the North Antelope East Mine Loop would be the environmentally preferred alternative.
North Antelope West	Mine connection spur connecting to existing mine loop west of Porcupine Reservoir.	Provide rail access to the North Antelope Mine.		

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Alternative	Description	Purpose	Recommendation in the Draft EIS	SEA's Final Recommendation
Mankato Alternatives - (Minnesota)				
M-1	No Build Alternative.	Maintain current condition which involves operational inefficiencies due to DM&E operating over another rail carrier (UP).	Based on information to-date, Alternative M-2 appears to be environmentally preferred. Should DM&E reach agreement with UP and the City of Mankato and implement measures to ensure safety of flood control projects, Alternative M-3 could become environmentally preferred alternative.	Absent an agreement between UP and DM&E, Alternative M-2 is the only feasible action alternative. SEA recommends that, should the Board approve the project and should no agreement exist between UP and DM&E, Alternative M-2 be approved. However, in the alternative, should the Board approve the project and UP and DM&E have an agreement permitting DM&E to construct and operate within the UP right-of-way, SEA recommends Alternative M-3.
M-2	Southern Mankato Route, provide a connection route south of Mankato.	Bypass DM&E's trackage rights on UP rail line, while avoiding existing rail corridor.		
M-3	Existing Corridor Route, provide a connection route within UP's existing rail corridor.	Bypass DM&E's trackage rights on UP rail line by confining rail construction to existing corridor.		

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Alternative	Description	Purpose	Recommendation in the Draft EIS	SEA's Final Recommendation
Owatonna Alternatives - (Minnesota)				
O-1	No action alternative, DM&E would be unable to interchange	Maintain environmental status quo, DM&E rail interchange would be limited to existing location.	Assuming DM&E could implement Alternative O-5, SEA preliminarily concludes that Alternative O-5 appears to be the environmentally preferable alternative because it would not require any additional right-of-way and would have generally minimal environmental impacts. If Alternative O-5 could not be implemented, SEA believes Alternative O-4 would be the environmentally preferable alternative because it would have less environmental impacts and minimize new rail line construction.	Absent an agreement between UP and DM&E, Alternative O-5 is not a feasible action alternative. SEA recommends that, should the Board approve the project and should no agreement exist between UP and DM&E, Alternative O-4, which minimizes environmental impacts, be approved. However, in the alternative, should the Board approve the project and UP and DM&E have an agreement permitting DM&E to construct and operate within the UP right-of-way, SEA recommends Alternative O-5.
O-2	Reconstruction of existing rail line, but no interchange with I&M.	Improve rail operations through Owatonna, DM&E rail interchange would be limited to existing locations.		
O-3	Reconstruction of existing rail line and construction of 3.2-mile	Enable rail interchange between DM&E and I&M using connecting track long enough to accommodate an entire train.		
O-4	Reconstruction of existing rail line and construction of 1.7-mile	Enable rail interchange between DM&E and I&M, minimizing new rail line construction.		
O-5	Reconstruction of existing rail line and construction of rail	Enable rail interchange between DM&E and I&M minimizing new rail line construction and confining construction to existing rail		

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Wyoming, South Dakota, and Minnesota

Alternative	Description	Purpose	Recommendation in the Draft EIS	SEA's Final Recommendation
Rochester, Minnesota Alternatives				
R-1	No action alternative, existing rail line not reconstructed.	To maintain the environmental status quo, rail operations in Rochester remain unchanged.	SEA believes use of existing rail corridor is generally environmentally preferable to new rail line construction. However, the reconstruction and by-pass alternatives would both have significant although different environmental impacts. Therefore, SEA requests further comments on which alternative would be environmentally preferable and the extent to which the community should share the cost of a bypass, if one is approved.	Because of the potential threat of sinkholes and the difficulty involved in mitigating sinkholes, SEA cannot recommend Alternative R-4. Accordingly, should the Board approve the PRB Expansion Project, Alternative R-2 would be the environmentally preferable route. SEA has developed extensive mitigation for the impacts to Rochester associated with Alternative R-2.
R-2	Reconstruction of existing rail line through Rochester.	Improve rail service and operation through Rochester.		
R-3	Construction of new rail line by-pass around the South side of Rochester, no change in rail line or operations in Rochester.	Minimize environmental impacts from increased rail traffic by routing it around Rochester.		
R-4	Construction of a new rail line by-pass for all rail traffic around the south side of Rochester.	Minimize environmental impacts by rerouting new and existing rail traffic around Rochester.		

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Wyoming, South Dakota, and Minnesota

Alternative	Description	Purpose	Recommendation in the Draft EIS	SEA's Final Recommendation
Brookings, South Dakota Alternatives				
B-1	No-Action Alternative, existing rail line not reconstructed.	To maintain the environmental status quo, rail operations in Brookings would remain unchanged.	Based on differences in the potential environmental impacts, SEA preliminarily concludes that Alternative B-4 appears to be the environmentally preferred alternative. However, this alternative may not contribute to the overall purpose and need defined for the project because it would not improve rail service to Brookings shippers. SEA specifically requests further comments on the Brookings alternative, including the extent to which the community should share the cost of a bypass.	While the bypass has different environmental impacts than the existing rail line, the bypass would also create substantial environmental impacts. Because the bypass does not provide obvious benefits or advantages to reduce environmental impacts or improve rail operations, SEA concludes that, should the Board approve the project, Alternative B-2 is the preferred alternative.
B-2	Reconstruction of existing rail line through Brookings.	Improve rail service and operation through Brookings.		
B-3	Construction of new rail line bypass around the north side of Brookings, no change in rail line or operations in Brookings.	Minimize environmental impacts from increased rail traffic by routing it around Brookings.		
B-4	Construction of a new rail line bypass for all rail traffic around the north side of Brookings.	Minimize environmental impacts by rerouting new and existing rail traffic around Brookings.		

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Wyoming, South Dakota, and Minnesota

Alternative	Description	Purpose	Recommendation in the Draft EIS	SEA's Final Recommendation
Pierre, South Dakota Alternatives				
P-1	No- Action Alternative, Existing Rail Line not reconstructed.	To maintain the environmental status quo, rail operations in Pierre would remain unchanged.	The Pierre bypass would require significant cut and fill, an extensive new bridge across the Missouri River, and would likely have a severe impact on a substantial amount of significant cultural resources. Therefore, SEA determined the bypass unreasonable and removed it from further consideration in the Draft EIS.	While the bypass has different environmental impacts than the existing rail line, the bypass would also create substantial environmental impacts. Because the bypass does not provide obvious benefits or advantages to reduce environmental impacts or improve rail operations and would be substantially more expensive than reconstruction of the existing rail line, SEA concludes that, should the Board approve the project, Alternative P-2 is the preferred alternative.
P-2	Reconstruction of existing rail line through Pierre.	Improve Rail Service and operation through Pierre.		
P-3	Construction of a new rail line bypass to the south of Pierre and Fort Pierre for all rail traffic.	Minimize environmental impacts by rerouting new and existing rail traffic around Pierre.		

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Wyoming, South Dakota, and Minnesota

Alternative	Description	Purpose	Recommendation in the Draft EIS	SEA's Final Recommendation
Middle East Yard Options (Minnesota)				
Option A	Construction and operation of new rail yard west of Mankato, Minnesota.	Provide facilities for train crew changes and efficient interchange of rail traffic with UP.	After considering the potential environmental impacts of the yard options, SEA determined impacts to Minneopa State Park would be significant and difficult to mitigate. Other environmental impacts could be mitigated. Therefore, SEA preliminarily concludes that Option B would be the environmentally preferable alternative.	Upon further analysis, SEA determined that both yard options would have potentially substantial impacts to water resources, Option A having a combined impact to surface waters and wetlands, Option B to wetlands. However, Option A would significantly impact Minneopa State Park. While wetland impacts could be mitigated, impacts to the state park would be difficult or impossible to mitigate. SEA therefore, reaffirms its conclusion in the Draft EIS that Option B is the environmentally preferable alternative.
Option B	Construction and operation of new rail yard east of New Ulm, Minnesota.	Provide facilities for train crew changes and efficient interchange of rail traffic with UP, while avoiding State Park lands.		

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Alternative	Description	Purpose	Recommendation in the Draft EIS	SEA's Final Recommendation
West Yard Options (Wyoming)				
Option A	Construction and operation of a new rail yard on the Campbell/Weston County line, Wyoming.	Provide facilities for train staging and dispatch westward to the coal mines and eastward to coal users.	Based on the information available to date, SEA considers Option B to be environmentally preferable because it would have less impact on public lands, particularly Thunder Basin National Grassland. In the event DM&E would exchange land elsewhere for National Grasslands at the Option A site and the USFS would agree to Option A, SEA would reconsider which yard alternative would be preferable.	Because Option A would have greater impact on public lands, particularly Thunder Basin National Grassland, SEA reaffirms its conclusion in the Draft EIS that the Option B yard alternative is environmentally preferable.
Option B	Construction and operation of a new rail yard slightly south of Option A.	Provide facilities for train staging and dispatch westward to the coal mines and eastward to coal users, avoiding impacts to National Grasslands.		

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Summary of Powder River Basin Expansion Project Alternatives
Wyoming, South Dakota, and Minnesota

Alternative	Description	Purpose	Recommendation in the Draft EIS	SEA's Final Recommendation
Missouri River Bridge Alternatives (South Dakota)				
Rehabilitation of Existing Bridge	Reinforce existing rail bridge to accommodate unit coal trains.	Enable transport of unit coal trains over the Missouri River.	SEA believes it is preferable to avoid impacts, even if temporary. Therefore, SEA preliminarily concludes that rehabilitation of the existing rail bridge is the environmentally preferred alternative. If DM&E submits information indicating rehabilitation of the existing rail bridge is not reasonable and feasible, SEA would re-evaluate this conclusion.	SEA reaffirms its conclusion in the Draft EIS that it is preferable to avoid impacts, even temporary, whenever possible. Therefore, SEA finds rehabilitation of the existing bridge environmentally preferable.
New Construction/ New Ownership	Construction and operation of a new rail bridge and transfer of ownership of existing bridge.	Enable transportation of unit coal trains over the Missouri River and development of alternative use for the existing rail bridge.		
New Construction/ Bridge Removal	Construction and operation of a new rail bridge and removal of existing rail bridge.	Enable transportation of unit coal trains over the Missouri River with no alternative use for the existing rail bridge.		